(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
11 November 2004 (11.11.2004)

PCT

(10) International Publication Number
WO 2004/096849 A2

(51) International Patent Classification[7]: C07K 14/52

(21) International Application Number:
PCT/CA2004/000610

(22) International Filing Date: 26 April 2004 (26.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/465,276 25 April 2003 (25.04.2003) US

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

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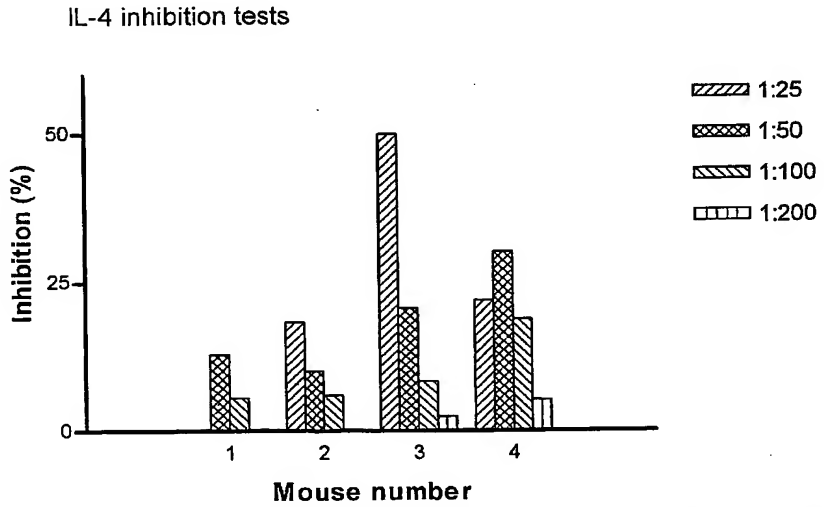
(54) Title: PEPTIDE-BASED CYTOKINE/CHEMOKINE VACCINES AGAINST ALLERGY



(57) Abstract: This invention relates to the methods and materials involved in the prevention and treatment of allergy. The inventors have identified a number of key peptides derived from the receptor binding sites of Th2 cytokines/chemokines such as interleukin (IL)-4, -5, -9, -13, -25, eotaxin and TARC and from the cytokine/chemokine binding sites of their receptors such as IL-4Rα. These peptides are made immunogenic by linkage to a carrier protein such as the Hepatitis B surface antigen (HBsAg) or the Hepatitis core antigen (HBcAg) via construction of a fusion protein or chemical methods to form a vaccine compound. The vaccine which consists of the vaccine compound and a human adjuvant can be used to down regulate allergic responses induced by over-expressed Th2 cytokines and chemokines. The vaccine itself or in combination with its DNA form induces autoantibodies which bind to cytokines/chemokines, thus reversing and preventing allergic responses for a long term.

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SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

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